

Automorphisms of Order Structures of Abelian Parts of Operator Algebras and Their Role in Quantum Theory

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Abstract

© 2013, Springer Science+Business Media New York. It is shown that any order isomorphism between the structures of unital associative JB subalgebras of JB algebras is given naturally by a partially linear Jordan isomorphism. The same holds for nonunital subalgebras and order isomorphisms preserving the unital subalgebra. Finally, we recover usual action of time evolution group on a von Neumann factor from group of automorphisms of the structure of Abelian subalgebras.

<http://dx.doi.org/10.1007/s10773-013-1691-3>

Keywords

Abelian subalgebras, JB algebra, Jordan isomorphism